

WHAT IS CLAIMED IS:

1. A printing method of printing a control strip including patches on a printed matter, measuring color densities of patches, and performing printing control  
5 based on the color densities, wherein

the patches are arranged in the same direction as the arrangement of ink keys of a printing device,

the patches include four typical patches of black, cyan, magenta, and yellow at dot area rates of 60 to  
10 85% in the width of each ink key, and

the printing control is the control for keeping the color densities of the four typical patches of the width of each ink key in predetermined color-density ranges.

15 2. The printing method according to claim 1, wherein

the dot area rates of the four typical patches range between 75 and 85%.

20 3. The printing method according to claim 1, wherein

the cyan and magenta typical patches are arranged at the middle of the width of each ink key.

4. A printing method of printing a control strip including patches on a printed matter, measuring color densities of the patches, and performing printing  
25 control based on the color densities, wherein

the patches are arranged in the same direction as

the arrangement of ink keys of a printing device,

the patches include four typical patches of black at a dot area rate of 100%, and cyan, magenta and yellow at dot area rates of 60 to 85% in the width of each ink key, and

the printing control is the control for keeping the color densities of the four typical patches of the width of each ink key in predetermined color-density ranges.

5. A printing method of printing a control strip including patches on a printed matter, measuring color densities of the patches, and performing printing control based on the color densities, wherein

the patches are arranged in the same direction as the arrangement of ink keys of a printing device, and include four solid patches of black, cyan, magenta, and yellow at dot area rates of 100%,

the patches include four typical patches of black, cyan, magenta, and yellow at dot area rates of 60 to 85% in the width of each ink key, and

the printing control determines whether or not values obtained based on the color densities of the typical patches and the color densities of the solid patches are included in predetermined ranges on the four colors in the width of each ink key, and determines that printing is not normal when it is not determined that the values are included in the ranges.

6. The printing method according to claim 5,  
wherein

the control strip includes the four typical  
patches and the four solid patches in the width of each  
5 ink key.

7. The printing method according to claim 5,  
wherein

the printing control outputs an alarm and stops  
opening/closing control of the ink keys of the printing  
10 device, when it is determined that the printing is not  
normal.

8. A printing method of printing a control strip  
including patches on a printed matter, measuring color  
densities of the patches, and performing printing  
15 control based on the color densities, wherein

the patches are arranged in the same direction  
as the arrangement of ink keys of a printing device,  
and include four solid patches of black, cyan, magenta,  
and yellow at dot area rates of 100% and four middle  
20 patches of black, cyan, magenta, and yellow at dot area  
rates of 40 to 50%,

the patches include four typical patches of black,  
cyan, magenta, and yellow at dot area rates of 60 to  
85% in the width of each ink key, and

25 the printing control determines on the four colors  
whether or not values obtained based on differences  
between the color densities of the solid patches and

the color densities of the typical patches and differences between the color densities of the typical patches and the color densities of the middle patches are included in predetermined ranges in the width of each ink key, and determines that printing is not normal when it is not determined that the values are included in the ranges.

9. The printing method according to claim 8, wherein the control strip includes the four typical patches, the four solid patches, and the four middle patches in the width of each ink key.

10. The printing method according to claim 8, wherein the printing control outputs an alarm and stops opening/closing control of the ink keys of the printing device, when it is determined that the printing is not normal.

11. A printing method of printing a control strip including patches on a printed matter, measuring color densities of the patches, and controlling ink keys provided for a printing device based on the color densities, comprising:

measuring the color densities of four patches of black, cyan, magenta, and yellow included in the width of each ink key;

controlling the ink keys for keeping the color

density of the patch of an optional color selected from cyan, magenta, and yellow and the color density of the patch of black in predetermined color-density ranges and keeping a value showing the balance of the color densities of cyan, magenta, and yellow patches in a predetermined range in the width of each ink key; and

controlling the ink keys for keeping the color densities of black, cyan, magenta, and yellow patches in the color-density ranges in the width of each ink key and obtaining a value showing the balance of the color densities of cyan, magenta, and yellow patches at each predetermined cycle, after the value showing the balance enters in the range.

12. The printing method according to claim 11, further comprising

controlling the ink keys for keeping the value showing the balance obtained at each predetermined cycle in the range in the width of each ink key.

13. A printed matter on which a control strip including patches is printed, wherein

the patches are arranged in the same direction as the arrangement of ink keys of a printing device under printing, and

the patches include four typical patches of black, cyan, magenta, and yellow at dot area rates of 60 to 85% in the width of each ink key.

14. The printed matter according to claim 13,

wherein dot area rates of the four typical patches range between 75 and 85%.

15        15. The printed matter according to claim 13,  
wherein typical patches of cyan and magenta are  
arranged at the middle of the width of each ink key.

16. A printed matter on which a control strip  
including patches is printed, wherein  
the patches are arranged in the same direction as  
the arrangement of ink keys of a printing device under  
printing, and

10        the patches include four typical patches of black  
at a dot area rate of 100% and cyan, magenta, and  
yellow at dot area rates of 60 to 85% in the width of  
each ink key.

15        17. The printed matter according to claim 13,  
wherein the patches include four solid patches of  
black, cyan, magenta, and yellow at dot area rates of  
100% in the width of each ink key.

18. The printed matter according to claim 17,  
20        wherein the control strip includes the four typical  
patches and the four solid patches in the width of each  
ink key.

19. The printed matter according to claim 13,  
wherein the patches include four solid patches of  
25        black, cyan, magenta, and yellow at dot area rates of  
100% and four middle patches of black, cyan, magenta,  
and yellow at dot area rates of 40 to 50%.

20. The printed matter according to claim 19, wherein the control strip includes the four typical patches, the four solid patches, and the four middle patches in the width of each ink key.

5           21. A printing control device for printing a control strip including patches on a printed matter, measuring color densities the patches, and performing printing control based on the color densities, wherein

10           the patches are arranged in the same direction as the arrangement of ink keys of a printing device, and

          the patches include four typical patches of black, cyan, magenta, and yellow at dot area rates of 60 to 85% in the width of each ink key, the printing control device comprising:

15           a measuring section which measures the color densities of the patches; and

          a control section which performs the control for keeping the color densities of the four typical patches in predetermined color-density ranges in the width of  
20           each ink key.

22. The printing control device according to claim 21, wherein the dot area rates of the four typical patches range between 75 and 85%.

25           23. The printing control device according to claim 21, wherein the typical patches of cyan and magenta are arranged at the middle of the width of each ink key.

24. A printing control device for printing a control strip including patches on a printed matter, measuring color densities of the patches, and performing printing control based on the color densities, wherein

the patches are arranged in the same direction as the arrangement of ink keys of a printing device, and

the patches include four typical patches of black at a dot area rate of 100% and cyan, magenta, and yellow at dot area rates of 60 to 85% in the width of each ink key, the printing control device comprising:

a measuring section which measures the color densities of the patches; and

a control section which performs the control for keeping the color densities of the four typical patches in predetermined color-density ranges in the width of each ink key.

25. A printing control device for printing a control strip including patches on a printed matter, measuring color densities of the patches, and performing printing control based on the color densities, wherein

the patches are arranged in the same direction as the arrangement of ink keys of a printing device, and include four solid patches of black, cyan, magenta, and yellow at dot area rates of 100%, and

the patches include four types of typical patches



of black, cyan, magenta, and yellow at dot area rates of 60 to 85% in the width of each ink key, the printing control device comprising:

5 a measuring section which measures the color densities of the patches: and

a control section which determines on the four colors whether or not values obtained based on the color densities of the typical patches and the color densities of the solid patches are included in  
10 predetermined ranges on the four colors in the width of each ink key, and determines that printing is not normal when it is not determined that the values are included in the ranges.

26. The printing control device according to  
15 claim 25, wherein the control strip includes the four typical patches and the four solid patches in the width of each ink key.

27. The printing control device according to  
20 claim 25, wherein the control section outputs an alarm and stops opening/closing control of the ink keys of the printing device, when it is determined that the printing is not normal.

28. A printing control device for printing a  
25 control strip including patches on a printed matter, measuring color densities of the patches, and performing printing control based on the color densities, wherein

the patches are arranged in the same direction as the arrangement of ink keys of a printing device, and include four solid patches of black, cyan, magenta, and yellow at dot area rates of 100% and four middle  
5 patches of black, cyan, magenta, and yellow at dot area rates of 40 to 50%, and

the patches include four typical patches of black, cyan, magenta, and yellow at dot area rates of 60 to 85% in the width of each ink key, the printing control  
10 device comprising:

a measuring section which measures the color densities of the patches; and

a control section which determines on the four colors whether or not values obtained based on  
15 differences between the color densities of the solid patches and the color densities of the typical patches and differences between the color densities of the typical patches and the color densities of the middle patches are included in predetermined ranges in the  
20 width of each ink key, and determines that printing is not normal when it is not determined the values are included in the ranges.

29. The printing control device according to claim 28, wherein the control strip includes the four  
25 typical patches and the four solid patches, and the four middle patches in the width of each ink key.

30. The printing control device according to

claim 28, wherein the control section outputs an alarm and stops opening/closing control of the ink keys of the printing device, when it is determined that the printing is not normal.

5           31. A printing control device for printing a control strip including patches on a printed matter, measuring color densities of the patches, and controlling ink keys provided for a printing device based on the color densities, comprising:

10               a measuring section which measures the color densities of the patches; and

              a control section which controls the ink keys respectively for keeping the color density of the patch of an optional color selected from cyan, magenta, and yellow and the color density of the black patch in  
15           predetermined color-density ranges and keeping a value showing the balance of the color densities of cyan, magenta, and yellow patches in a predetermined range in the width of each ink key, and controls the ink keys  
20           respectively for keeping the color densities of black, cyan, magenta, and yellow patches in the color-density ranges in the width of each ink key and obtains a value showing the balance of the color densities of cyan, magenta, and yellow patches at each predetermined  
25           cycle, after the value showing the balance enters in the range.

              32. The printing control device according to

claim 31, wherein the control section controls ink keys for keeping the value showing the balance obtained at each the predetermined cycle in the range in the width of each ink key.